TEXTILE TECHNOLOGY DIGEST

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Abstracts

ORGANIC FIBERS I

PRODUCING FIBERS ON FARM. A. P. Belanger. Chemurgic Papers No. 582, Series 4 (1947), Natl. Farm Chemurgic Council, Columbus, O.; 4 pp.
TTD: 10-47

Vegetable fibers I 1

Abaca fibers. Report on recent visit to abaca fiber projects in Guatemala and Honduras. Ellis W. Brewster, Plymouth Cordage Co. *Cord Age Mag. 48,* No. 1, 20-2 (July, 1947).

Abaca production in Central America is briefly reviewed. TTD: 10-47

Cotton. Cotton—fiber to fabric. H. K. Torpey, Can. Assn. of Textile Colorists & Chemists. *Can. Textile J. 64,* No. 6, 46, 48 (Mar. 21, 1947).

A lecture on the uses and manufacture of cotton. TTD: 10-47

Cotton improvement. Arkansas farmers double cotton yields in 18-year period. Marie L. Lavalland, Arkansas Agr. Expt. Station. *Cotton Gin & Oil Mill Press 48,* No. 10, 14 (May 17, 1947).

A review of the cotton improvement program of the College of Agriculture, University of Arkansas, that has improved cotton varieties and doubled yields. TTD: 10-47

Cotton quality. Cotton quality improvement in relation to mill requirements. Francis L. Gerdes, USDA Laboratory. *Cotton & Cotton Oil Press 48,* No. 5, 5, 13 (Mar. 8, 1947).

A review of cotton quality improvement programs. Fiber characteristics, desirable in manufacture, are being improved and there is an increasing use of laboratory tests to supplement grade and staple classification. TTD: 10-47

Flax and hemp. Flax and hemp. G. Schaefer. *Ciba Rev.* 49, 1762-88, 1791-5 (Apr. 1945).

A review of the history, cultivation and preparation of flax and hemp. TTD: 10-47

Hemp. Improved flax processing increases wet strength. Anon. *Am. Wool Cotton Reptr. 61,* No. 7, 57, 59, 61, 63; No. 8, 29 (Feb. 13, 20, 1947).

A process for improving the wet strength of hemp, erroneously described in the first article as applicable to flax. TTD: 10-47

FACTORS AFFECTING PERFORMANCE OF MECHANICAL COTTON HARVESTERS (STRIPPER TYPE), EXTRACTORS & CLEANERS. H. D. Smith, D. T. Killough, & D. L. Jones. Bull. No. 686 of Texas Agr. Expt. Station, College Station, Texas; 50 pp.

Reviewed in *Textile World 97,* No. 5, 244 (May, 1947). TTD: 10-47

Flax. Flax in Texas. Walter M. Gilruth, Flax Inst. of U. S. *Cotton Gin & Oil Mill Press 48,* No. 10, A6, A8-9 (May 17, 1947).

A brief history of flax with a discussion of flax varieties and yields in Texas. TTD: 10-47

CHEMURGIC FUTURE OF COTTON. John Leahy. Chemurgic Papers No. 601, Series 5 (1947), Natl. Farm Chemurgic Council, Columbus, O.; 6 pp.
TTD: 10-47

FLAX, HEMP AND JUTE YEARBOOK, 1946-47. H. R. Carter Publications, Ltd., 17 Linenhall St., Belfast; price 10s.

Reviewed in *Textile Mfr. 73,* 85 (Feb. 1947). TTD: 10-47

NEW HORIZONS FOR TEXAS FLAX. Henry Wunderlich. Chemurgic Papers No. 565, Series 3 (1947), Natl. Farm Chemurgic Council, Columbus, O.; 3 pp.
TTD: 10-47

RAMIE. Willis G. Waldo. Chemurgic Papers No. 564, Series 3 (1947), Natl. Farm Chemurgic council, Columbus, O.; 9 pp. TTD: 10-47

RAMIE AND RAMIE PRODUCTS. Herman W. Hawker. Chemurgic Papers No. 577, Series 4 (1947), Natl. Farm Chemurgic Council, Columbus, O.; 11 pp.
TTD: 10-47

WHAT IS AHEAD FOR COTTON? John Leahy. Chemurgic Papers No. 561, Series 3 (1947), Natl. Farm Chemurgic Council, Columbus, O.; 7 pp. TTD: 10-47

YUCCA FIBERS. C. W. Botkin. Chemurgic Papers No. 585, Series 4 (1947), Natl. Farm Chemurgic Council, Columbus, O.; 6 pp. TTD: 10-47

Animal fibers I 2

Animal fibers. Science of protein molecules. Anon. *Ambassador,* No. 4, 118 (1947).

A brief discussion on the structure of animal fibers. TTD: 10-47

Sericulture. Silk moths. E. Handschin, Univ. of Basle. *Ciba Rev.* 53, 1902-22, 1925-36 (Nov. 1946).

The silkworm, its breeding and diseases are reviewed. Wild silk moths, spiders and insects as producers of silk are also discussed. TTD: 10-47

Wool. Technique of wool manufacturing. W. L. Goddard, Paton Mfg. Co., Ltd. *Can. Textile J. 64,* No. 3, 40, 42 (Feb 7, 1947).

Wool, its manufacturing process and machinery, designs, and blends are discussed. TTD: 10-47

UTILIZATION OF WOOL AND MOHAIR IN TEXAS. Robt. E. Pent. Chemurgic Papers No. 559, Series 3, (1947), Natl. Farm Chemurgic Council, Columbus, O.; 25 pp. TTD: 10-47

Artificial fibers I 3

Rayon staple. Use of rayon staple in woven fabrics. R. S. Greenwood, Courtaulds, Ltd. *Can. Textile J. 64,* No. 11, 36-9 (May 30, 1947).

Production of rayon staple and rayon blends and their uses in fabrics are discussed in a brief review. TTD: 10-47

Peanut protein filaments. Sarah N. McGeoch (to Imperial Chemical Industries, Ltd.). USP 2 424 408, July 22, 1947.

In the viscous alkaline spinning solutions hitherto prepared from peanut material, difficulty has been caused by a surface gelation which interferes with extrusion through spinnerets. The solutions are found to be free from surface gelation above a minimum extraction alkalinity, and the peanut skin is found to promote gelation and to discolor the solution. The skin is therefore removed by winnowing before crushing the peanuts sufficiently to cause exudation of oil. The peanut globulin is extracted with caustic alkali at pH 11.0-11.5 at temperatures below 40°C. TTD: 10-47

Bleaching sulfate pulp. Ferri Casciani (to Niagara Alkali Company). USP 2 424 797, July 29, 1947.

The pulp is first bleached with hypochlorite to a brightness lower than that desired in the final product. It is then washed with water, an excess of cl is allowed to act for 10 min or less, and sufficient base then added to neutralize the acid. This hypochorite solution is given time to react with the impurities in the pulp, which are then washed out with water. (*See* USP 2 127 765 and 2 203 212.) TTD: 10-47

Protein filaments. R. H. K. Thomson & D. Traill (to Imperial Chemical Industries, Ltd.). Brit. P. 579 588. *Textile Mfr. 73,* 48 (Jan. 1947).

Insolubilized protein filaments are produced by treating the filaments (already completely insolublized with formaldehyde in an acidified saline solution) with a strong aqueous formaldehyde solution having a pH about 8.6-10.4. TTD: 10-47

Crimped filaments. Am. Viscose Corp. Brit. P. 580 050. *Textile Mfr. 73* (78) (Jan. 1947).

A 3-dimensional crimp is imparted to artificial filaments by passing streams of filament-forming solution into a coagulating bath, the filaments being made to join side by side near the point of entrance into the bath. The freshly spun filaments are stretched at least 20% and relaxed while still plastic and then set in relaxed condition. TTD: 10-47

Regenerated cellulose. Brit. Celanese, Ltd. Brit. P. 580 433. *Textile Mfr. 73,* 104 (Feb. 1947).

In the production of regenerated cellulose, fibers, films, etc., of a cellulose ester of a carboxylic acid are completely saponified in an alkaline medium having a low aliphatic aldehyde and a water-soluble salt. TTD: 10-47

Protein filaments. R. H. K. Thomson & D. Traill (to Imperial Chemical Industries, Ltd.). Brit. P. 580 434. *Textile Mfr. 73,* 104 (Feb. 1947).

Insolublized protein filaments of improved strength are produced by treatment with a strong formaldehyde solution having a pH about 1.9-4.0, filaments so produced having been already insolublized by treating with formaldehyde in a strongly acidified saline solution. TTD: 10-47

Spinneret. Am. Viscose Corp. Brit. P. 580 466. *Textile Mfr. 73,* 104 (Feb. 1947).

An improved spinneret for spinning artificial fibers has orifices spaced 0.015″ apart. TTD: 10-47

Filament denier. P. F. C. Sowter. Brit. P. 580 498. *Textile Mfr. 73,* 105 (Feb. 1947).

In order to reduce denier, cellulose derivative filaments are stretched at least 100% with the aid of a softening agent. TTD: 10-47

Casein filaments. W. A. Caldwell & J. Jack (to Imperial Chemical Industries, Ltd.). Brit. P. 580 508, *Textile Mfr. 73,* 105 (Feb. 1947).

Filaments are wet spun from alkaline casein solutions into an acidified saline coagulating bath, the freshly spun filaments being then stretched in a swelling medium of which the isoelectric pH approximates that of the protein. The filaments are washed under tension in a non-solvent, nonhardening bath and then treated without tension in a saline insolubilizing bath to render them resistant to boiling water, hot acid dye baths, and alkaline laundering solutions. TTD: 10-47

Crimped acetate filaments. Brit. Celanese, Ltd. Brit. P. 580 714. *Textile Mfr. 73,* 105, (92) (Feb. 1947).

Cellulose acetate filaments are crimped by treating with a liquid containing ethyl or methyl alcohol, acetone, or mixtures and a diluent. After removal of excess liquid the filaments are washed while tensionless and dried in heated air. A permanent crimp and a full and elastic handle similar to that of wool, are imparted to the filaments. TTD: 10-47

Crimped filaments. Am. Viscose Corp. Brit. P. 580 764. *Textile Mfr. 73,* (92) (Feb. 1947).

A 3-dimensional crimp is imparted to artificial filaments, having at least 2 eccentrically arranged components of different shrinkage characteristics, by stretching the filaments beyond the elastic limit of at least 1 of the components and relaxing while partially softened, and then hardening while in a relaxed condition. TTD: 10-47

Artificial filaments. Brit. Celanese, Ltd. Brit. P. 580 832. *Textile Mfr. 73,* 150 (Mar. 1947).

Infrared heat rays are focused on freshly extruded artificial filaments in order to evaporate the volatile solvent. TTD: 10-47

Filament forming. Am. Viscose Corp. Brit. P. 580 941. *Textile Mfr. 73,* 150 (Mar. 1947).

A partitioned spinneret permits the spinning of 2 or more solutions to produce composite filaments. TTD: 10-47

Synthetic fibers I 4

Nylon staple. Uses of nylon staple in wearing apparel. Anon. *Can. Textile J. 64,* No. 5, 42 (Mar. 7, 1947).

A brief review. TTD: 10-47

Terylene. Terylene going into commercial production. F. R. Brewster, McGraw-Hill World News. *Textile World 97,* No. 6, 123, 174, 176 (June, 1947).

The melt spinning and stretching of Terylene for commercial production of yarn are described, and its properties given. TTD: 10-47

Vinyon N. Carbide Corp. has new Vinyon yarn. Anon. *Am. Wool Cotton Reptr. 61,* No. 10, 11 (Mar. 6, 1947).

Properties and uses of Vinyon N are briefly noted. TTD: 10-47

Oriented polysulfide polymers. Jos. C. Patrick (to Thiokol Corp.). USP 2 425 045, Aug. 5, 1947.

A linear polysulfide polymer containing a predominance of -SS-linkages is heated to 100-200°C, stretched, and cooled under tension. This increases the tensile strength tremendously. In some cases, improvements in the electrical properties, especially the dielectric strength and power factor, have been obtained. TTD: 10-47

Polythene. R. B. Richards (to Imperial Chemical Industries of Australia & New Zealand, Ltd.). Australian P. 124 700, July 10, 1947.

Molten filaments of polythene of MW of about 15,000-30,000 are extruded, cooled and solidified and then wound at a rate at least 3 times that of filament formation to produce elastic filaments. TTD: 10-47

Resilience of polymers. B. J. Habgood, D. A. Harper & R. J. W. Reynolds (to Imperial Chemical Industries, Ltd.). Brit. P. 580 524. *Textile Mfr. 73,* 105 (Feb. 1947).

Increased resiliency and an increased softening point and resistance to solvent solutions are imparted to organic diisocyanate modified polyesters or polyesteramides by heating the polymers in the presence of formaldehyde or of a formaldehyde-liberating substance. TTD: 10-47

NYLON FROM AGRICULTURAL BY-PRODUCTS. O. W. Cass. Chemurgic Papers No. 587, Series 4 (1947), Natl. Farm Chemurgic Council, Columbus, O.; 5 pp. TTD: 10-47

Fiber applications I 5

Cotton insulation. Taylor, Texas, firm pioneers development of cotton insulation. Oliver P. Harris, Taylor Bedding Mfg. Co. *Cotton & Cotton Oil Press 48,* No. 7, 45-6 (Apr. 5, 1947).

A brief note on flameproofed cotton, Insl-Cotton, for insulation. TTD: 10-47

Laminates. Progress in laminated sheets. E. H. G. Sargeant. *Brit. Plastics 19,* 226-30 (May, 1947).

A review of the improvements in forming laminates and future trends. TTD: 10-47

Papermaker's felt. Zephir J. Chagnon (to Albany Felt Co.). USP 2 423 828, July 15, 1947.

In a fabric to be used in the manufacture of pulp, paper, paper board, asbestos cement products and the like, from 5 to 70% of the fibers are synthetic resins such as nylon or the like. The remainder of the fibers are wool so that the structure will felt or full to the necessary degree.
SPH TTD: 10-47

Fiber processing I 6

Textile lubricant. Edwin A. Robinson & Maurice J. Kelley (to Nopco Chemical Co.). USP 2 425 393, Aug. 12, 1947.

Hydroxylated polyamides, prepared by reacting a hydroxlated polyamine with a fatty acid containing from 8 to 22 C atoms, or an ester or acid halide thereof, and then with a short-chain fatty acid containing 2-5 C atoms, are used to impart softness, drape and pliability to textile materials, without causing yellowing. Any hydroxylated polyamine, including ethanol ethylene diamine, ethanol diethylene triamine, ethanol propylene diamine, symmetrical diethanol ethylene diamine, 1 amino 3 methylamino isopropanol, N ethyl N'ethanol ethylene diamine, isopropanol ethylene diamine, 1 amino 2 ethyl 3 ethanol amino isopropanol, 1-amino-dimethyl 5 methylamino dimethyl n-pentanol-3, 1, 3 diamino isopropanol may be used. The products may be added to spinning baths to prevent clogging of the spinnerets, may be used as assistants in dyeing and printing, and for the preparation of detergents and wetting, dispersing and emulsifying agents.
TTD: 10-47

Washing fibers. W. W. Spooner. Australian P. 124 323, June 5, 1947.

Material is fed to a vat on a conveyor and moved thereon through a washing liquid. As it passes it is subjected to jets of fluid from nozzles arranged on opposite sides of the conveyors. The washed material is removed by an oscillating fork and then passed through squeeze rollers to a trough. TTD: 10-47

Fur carroting. M. Mulqueen (to Pellissier, Jonas & Rivet, Inc.). Australian P. 124 602, July 3, 1947.

An aqueous carroting solution, for brushing onto fur or into which the fur may be immersed, consists of HNO_3, H_2O_2, and either H_2SO_4 or H_3PO_4 and is free of other acids and metallic salts. TTD: 10-47

INORGANIC FIBERS II

Fiberglas. Fiberglas yarns for textile purposes. Anon. *Can. Textile J. 64,* No. 7, 36-8 (Apr. 4, 1947).

The manufacture, physical properties, and yarn numbering system of Fiberglas yarns are discussed.
TTD: 10-47

Foamglas insulation. Use of Foamglas for insulating textile mills. Anon. *Can. Textile J. 64,* No. 9, 39 (May 2, 1947).

Foamglas, a pure glass product, is discussed in regard to its use as insulation in textile mills. TTD: 10-47

Glass fiber mats. Mat molding. Anon. *Brit. Plastics 19,* 169-70 (Apr. 1947).

A method for forming resin-impregnated glass fiber mats with matting dies is described. TTD: 10-47

Woven asbestos fabric. Howard Snow & Eugene Gulledge (to Southern Friction Materials Co.). USP 2 423 910, July 15, 1947.

In a plied fabric of conventional weave made from asbestos yarn, either plain or metal reinforced, that is curved to fit a brake drum, the density of the fabric on the outer surface is less than on the concave surface. Certain weave patterns tend to make the fabric more dense on one side than on the other in its flat state; and when the fabric is curved to fit a brake drum, the density is approximately the same on each surface. The ratio of ends in the top and bottom ply is about 5:4.
SPH TTD: 10-47

Composite filament. Archibald H. Davis. USP 2 424 743, July 29, 1947.

An organic plastic material, such as a filament, is wound around an inorganic fiber or attached to its surface, without completely covering the surface. The organic material separates and lubricates the inorganic fibers, and bonds them into a fabric which has the full tensile strength of the inorganic fibers and an improved flexibility and bond. The same lubricating and bonding action will be effective when the strands are interplied, interwoven, knitted, or interlaced in any direction and according to any pattern. The inorganic fibers constituting the basis of the fabric will not be in direct contact with each other at any point, and will not abrade each other. TTD: 10-47

Glass fibers. A. L. Simison & E. Fletcher (to Owens-Corning Fiberglass Corp. through A. S. Cave). Australian P. 124 475, June 19, 1947.

See USP 2 407 295 & 2 407 456, Sept. 10, 1946 (TTD: *3,* 541). TTD: 10-47

Glass fibers. G. Slayter, D. C. Simpson, J. L. Tucker, A. L. Simison & R. A. Schoenlaub (to Algemeene Kunstvezel Maatschappij N. V.). Australian P. 124 553, June 26, 1947.

A nonalkaline glass composition that may be drawn into fibers comprises CaO 16-30%, MgO 1-7%, alumina 7-14%, and silica 53-67%, with or without fluxes (up to 10%) such as lithia and fluorides.
TTD: 10-47

FIBER TO YARN III

Uniform yarns. Uniform yarns are made by modern machines. Job J. Mills. *Textile World 97,* No. 6, 143, 176, 182, 184, 186 (June, 1947).

Developments in opening, carding, drawing, and spinning equipment are reviewed. Stronger and more uniform yarns are the result of closer control and modern techniques. TTD: 10-47

Fiber preparation III 1

Carding. Carding details need close attention. Anon. *Textile World 97,* No. 5, 137, 139, 222, 224 (May, 1947).

A summary of answers to carding problems given at a meeting of the Textile Operating Executives of Georgia.
TTD: 10-47

Combing. Key points in Noble combing. Lanarius. *Can. Textile J. 64,* No. 9, 40, 42 (May 2, 1947).

Details of operating and settings of the Noble comb in worsted top production are given. TTD: 10-47

Cotton combers. Cotton comber—blueprint to quality. Carl D. Welch, Am. Yarn & Processing Co. *Textile World 97,* No. 5, 108-10, 196, 198, 200 (May, 1947).

Silver variation in cotton combined yarns is due to mixing varied cottons on the comber as well as to neglected combers. Fixing, setting, and overhauling combers are discussed. TTD: 10-47

Wool card. Improved woolen card holds many features. Anon. *Am. Wool Cotton Reptr. 61,* No. 9, 11, 13 (Feb. 27, 1947).

An illustrated description of a new type, improved woolen card (New England Machine Works) that produces top quality roving at an increased rate.
TTD: 10-47

Wool yarn. Present trends in woolcombing—II. F. Robertshaw, Woolcombers, Ltd. *Textile Mfr. 73,* 120-2 (Mar. 1947).

Trends in drying, carding, backwashing, filling, and

combing wool are reviewed. Ventilation and lighting of woolcombing factories are discussed. TTD: 10-47

Flax fiber processing. J. A. Matthew (to Linen Industry Research Assn.). Brit. P. 579 720-2. *Textile Mfr. 73,* 49 (Jan. 1947).

In the preparation of bast fibers, particularly flax, which may be wet spun, the slivers are treated with 1 or more liquids (by passing through a series of baths) and dried without intermediate handling, then softened by rolling under pressure between a number of plain bars, carried by an oscillating drum, and a resilient backing such as rubber, and finally fed directly to a high draft wet spinning frame (as described in Brit. P. 579 040: *see* TTD: *4,* 313). TTD: 10-47

Carding rolls. P. B. Haigh (to J. Haigh & Sons, Ltd.). Brit. P. 579 947. *Textile Mfr. 73,* 50, (78) (Jan. 1947).

Bearing brackets are arranged for the shafts of worker and stripper rollers on carding machines. TTD: 10-47

Draw frame safety device. D. Walsh. Brit. P. 581 198. *Textile Mfr. 73,* 152 (Mar. 1947).

On a drawing frame an improved mechanism assures greater safety during any changes of gear wheels and consists essentially of a rod mounted on the frame and connected to a lever for moving the belt on and off the fast and loose pulleys. TTD: 10-47

Blends III 2

Blends. Viscose-protein blends creating new interest. Anon. *Am. Wool Cotton Reptr. 61,* No. 10, 7-8, 33 (Mar. 6, 1947).

A discussion of synthetic and natural fibers for blending in relation to their various characteristics suitable for blends. An analysis is given of a viscose-protein blended fabric. TTD: 10-47

Blends. Animal fur and wool blends. Anon. *Am. Wool Cotton Reptr. 61,* No. 16, 106 (Apr. 17, 1947).

A brief note on blending animal furs and wool for high quality sweaters, socks, etc. (*Cf.* Brit. P. 581 274, TTD *4,* 398.) TTD: 10-47

Blends. Look to new blends for future profits. Fred. Bonnet, Am. Viscose Corp. *Am. Wool Cotton Reptr. 61,* No. 11, 43, 45 (Mar. 13, 1947).

A lecture on the various fibers in blends and the future of blends in fabrics. TTD: 10-47

Fur-wool blend. L. B. Strauss. Brit. P. 581 274. *Textile Mfr. 73,* 152 (Mar. 1947).

Fur and wool fiber scraps are blended and the mixed fiber spun into a yarn from which a fabric of good feel and strength can be made for use in sweaters and skirts. The fabric after weaving is further treated in hot water and rinsed in cold water. TTD: 10-47

Spinning III 3

Doubling. Developments in yarn doubling. H. Ankers, Duncan Doubling Co. *Textile Mfr. 73,* 62-4 (Feb. 1947).

Developments in yarn doubling machines and methods are reviewed. The major developments have been in the winding and gassing processes. TTD: 10-47

Long draft spinning. Long draft must retain fiber control. Seth Carter. *Textile World 97,* No. 6, 108-10 (June, 1947).

Developments in long draft spinning are reviewed. The possibilities of future improvement depend on fiber control. TTD: 10-47

Pneumafil system. Pneumafil broken-end collector. Anon. *Textile Mfr. 73,* 65, 67 (Feb. 1947).

The Pneumafil pneumatic broken-end collector for ring frames is described. It increases ring frame cleanliness, eliminates the underclearers, and increases yarn quality and production. TTD: 10-47

Ring travelers. Limiting speeds for ring travelers. Anon. *Can. Textile J. 64,* No. 1, 44 (Jan. 10, 1947).

Conditions affecting ring traveler speeds and mechanical limits for different sizes of rings are discussed. TTD: 10-47

Roll picker. Pneumatic roll picker. Anon. *Can. Textile J. 64,* No. 3, 48 (Feb. 7, 1947).

A Pneumatic roll picker that removes lint, fly, etc. from rolls of spinning frames and drawing frames in cotton mills is described. (*Cf.* TTD *4,* 209.) TTD: 10-47

Spindle setting. Resetting ring frame spindles. Lanarius. *Can. Textile J. 63,* No. 25, 50 (Dec. 13, 1946).

In ring spinning, spindles must be set in proper relationship to the ring and thread guide. The correct position and resetting of the spindles to attain this position are given. TTD: 10-47

Spinning. Spinning technology advanced by Georgia mills. Anon. *Textile World 97,* No. 5, 155, 157, 204 (May, 1947).

A summary on spinning, winding, twisting, and warp preparation technology is given at meeting of Georgia mill men. TTD: 10-47

Wet spinning. Wet spinning flax and hemp yarns. S. A. G. Caldwell. *Textile Mfr. 73,* 72-3 (Feb. 1947).

Developments that are increasing spinning frame efficiency in wet spinning flax and hemp are reviewed, including a ring frame in which spindles are gradually lowered as a package builds up, and methods of fiber purification. TTD: 10-47

Bobbin. M. D. O'Grady. Australian P. 124 315, June 5, 1947.

A bobbin for a drawing or spinning frame comprises a metal barrel with flanges screwed or welded to each end. TTD: 10-47

Ring spinning frame. J. Schofield (to J. & H. High Draft, Ltd.). Brit. P. 579 548. *Textile Mfr. 73,* 48 (Jan. 1947).

An improved weighting device for the drafting rollers of ring spinning frames is readily adjustable. TTD: 10-47

Wet spinning of flax. J. P. Mackie (to J. Mackie & Sons, Ltd.). Brit. P. 579 793. *Textile Mfr. 73,* 49-50 (Jan. 1947).

In a wet spinning process flax yarns may be spun at much higher speeds on a spinning frame using a stationary ring rail. TTD: 10-47

Wet spinning of flax. J. P. Mackie (to J. Mackie & Sons, Ltd.). Brit. P. 579 797. *Textile Mfr. 73,* 50 (Jan. 1947).

In wet spinning of flax the flax is first prepared in the form of roving (comprising 2 slivers from 2 delivery rollers on the roving frame) and subjected to boiling, preferably in alkaline solution, and then dried and packaged for spinning. TTD: 10-47

New wiping-down motion. T. A. Clarke. Brit. P. 580 951. *Textile Mfr. 73,* 150 (Mar. 1947).

A wiping-down motion for a spinning mule consists of an endless rope to which are attached wipers for the carriage and roller beams. TTD: 10-47

Wool-like twisted yarn. G. Rutishauser. Brit. P. 580 971. *Textile Mfr. 73,* 151 (Mar. 1947).

Bundles of continuous artificial filaments are converted into a wool-like, crimped yarn without the individual operations of cutting, recombining, and twisting the fibers. TTD: 10-47

Winding III 4

Winding and warping. Developments in modern winding and warping. E. Brierley, Thos. Holt,

Ltd. *Textile Mfr. 73,* 21-24, 69-71 (Jan., Feb. 1947).

A lecture on the modern practices and development of winding and warping of cotton for weaving.
TTD: 10-47

Winding yarn. L. N. Clegg (to John Vicars & Co. Proprietary, Ltd.). Australian P. 124 639, July 3, 1947.

To prevent wear on a yarn winder, a pair of discs, secured by set screws on a rotatable shaft, may be adjusted to suit the size of yarn, the periphery of each disc being serrated or knurled. TTD: 10-47

Yarn winder. L. H. Bateson (to Arundel Coulthard & Co., Ltd.). Brit. P. 580 989. *Textile Mfr. 73,* 151 (Mar. 1947).

Yarn is wound into a package by a cross-traversing device. TTD: 10-47

Yarn processing III 5

Fiber bonding. Fiber bonding: new multiple-end machine. Anon. *Textile Mfr. 73,* 39 (Jan. 1947).

A description of a fiber bonding, multiple-end treating machine (Dan River Mills) and its operation.
TTD: 10-47

Twist-setter. Twist-setting installation improves mill's weaving. C. M. Bowden, Textile World. *Textile World 97,* No. 5, 116, 220, 222 (May, 1947).

Handling methods and conditioning of yarn by use of the Niagara twist-setter is described (at Pacolet Mfg. Co.). Resulting cloth shows less kinky filling, and sloughing is reduced. TTD:10-47

Yarn drier. J. Sharpe (to Hunt & Moscrop, Ltd.). Brit. P. 579 916. *Textile Mfr. 73,* 50 (Jan. 1947).

Hanks of yarn, suspended by supports in 2 endless chains, are given a rotary movement and subjected to heated air as they pass through a continuous drying machine. TTD: 10-47

Yarn drier. U. S. Rubber Co. Brit. P. 580 868. *Textile Mfr. 73,* 150 (Mar. 1947).

Yarns or cords are dried by advancing them under tension over a long heated tube in a long spiral path.
TTD: 10-47

Yarn applications III 7

Rubberized rayon yarn. J. W. Illingworth (to Dunlop Rubber Co., Ltd.). Brit. P. 580 776. *Textile Mfr. 73,* 150 (Mar 1947).

The adhesion between rayon yarn and rubber is improved by incorporating casein in the viscose solution and then vulcanizing the structure by heating.
TTD: 10-47

YARN TO FABRIC IV

Yarn preparation IV 1

Rayon slashing. New I.C.S. texts in rayon slashing and weaving. Anon. *Warp Sizing Specialist* (Oct. 1947).

A new text of the International Correspondence Schools is briefly reviewed.
LCL TTD: 10-47

Slasher control. Size and slasher control. Anon. *Am. Wool Cotton Reptr. 61,* No. 4, 34 (Jan. 23, 1947).

The fulscope temperature controller for use in size preparation and on slashers is briefly noted. TTD: 10-47

Warp sizing. Test of warp size is in the weaving. Paul V. Seydel, Seydel-Woolley & Co. *Textile World 97,* No. 6, 125, 196, 199-200, 202, 204, 206, 208 (June, 1947).

The best possible weaving is obtained from good warp sizing. No one particular property can be used for determining the weavability of a warp, but rather each must be well balanced with the others. The weave room is still the final test for a warp size. TTD: 10-47

Weaving IV 2

Basketry and weaving. Basketry and woven fabrics of European Stone and Bronze Ages. E. Vogt, Univ. of Zurich. *Ciba Rev.* 54, 1947-64, 1967-70 (Jan. 1947).

A review of the weave, threads, etc. used in making baskets, netting and the like, and of selvedges, designs, colors, etc. used in woven fabrics in the Stone and Bronze Ages. TTD: 10-47

Weaving celanese. Celanese—factors which influence weaving efficiency. W. H. Levers, Brit. Celanese, Ltd. *Textile Mfr. 73,* 7-8, 10, 55-58 (Jan., Feb., 1947).

Humidity, temperature, friction, lease rods, types of healds, reeds, etc. are factors discussed in weaving celanese. TTD: 10-47

Looms IV 2 a

Loom fixing. Fixing Draper looms for maximum efficiency. Anon. *Can. Textile J. 64,* No. 9, 43 (May 2, 1947).

Details of fixing Draper looms are briefly reviewed. TTD: 10-47

Loom speeds. Loom speeds and jobs again in limelight. Anon. *Am. Wool Cotton Reptr. 61,* No. 3, 13-14 (Jan. 16, 1947).

Loom speeds can better be increased in weaving rayon than cotton fabrics. Problems presented with higher loom speeds are discussed. TTD: 10-47

Lug straps. Replacement of lug straps influence weaving results. H. E. Wenrich. *Textile World 97,* No. 5, 151, 153, 214 (May, 1947).

Lug straps and sticks play an important part in weaving production. Types and factors affecting choice of strap or stick are discussed. TTD: 10-47

Shuttle speeds. Standardization of shuttle speeds. John Graham. *Textile Mfr. 73,* 134, 147 (Mar. 1947).

A mechanism that will standardize the shuttle speed of a loom is described. TTD: 10-47

Sulzer loom. Sulzer automatic loom. Anon. *Textile Mfr. 73,* 66-7 (Feb. 1947).

The new Swiss automatic loom and its operation are described. Main features of the loom are the very small pirnless gripper shuttles, cross wound cones for weft supply, high picking speeds, and economical operation. TTD: 10-47

Sulzer loom. Sulzer loom. Richard Herold, Sulzer Bros., Ltd. *Am. Wool Cotton Reptr. 61,* No. 8, 13 (Feb. 20, 1947).

A brief description of the Sulzer loom. TTD: 10-47

Terry loom. Automatic weaving of terry towels. T. Hargreaves. *Textile Mfr. 73,* 83-5, 124-6 (Feb., Mar. 1947).

The Model C5 terry loom (Crompton & Knowles) fully equipped to weave terry towels, is described in detail with accompanying diagrams. Description of the box motion indicator and multiplier is given. TTD: 10-47

Warp beam. E. L. Heyworth & H. Croasdale (to J. Smalley, Ltd.). Brit. P. 579 445. *Textile Mfr. 73,* 48 (Jan. 1947).

A spring-loaded weighting mechanism for loom warps is simply constructed and consists essentially of a bowed leaf spring pivoted to the back rail of the loom and having V-shaped rollers at its ends which carry a cross shaft in pivoted shackles. TTD: 10-47

Loom shedding motion. Mashchinenfabrik Ruti Vormals Caspar Honegger, A. G. Brit. P. 580 049. *Textile Mfr. 73,* (78) 103 (Jan., Feb. 1947).

The heald frame on a loom may be adjusted vertically without disengaging the shedding motion. TTD: 10-47

Circular loom. G. E. Ezbelent. Brit. P. 580 800. *Textile Mfr. 73,* (92) (Feb. 1947).

On a circular loom the spacing between the self-operated shuttles is controlled and kept constant by a magnetic means mounted on the shuttles. TTD: 10-47

Control devices — IV 2 b

Warp protector motion. N. Benson (to Holmes, Goldrich & Co., Ltd.). Brit. P. 579 483. *Textile Mfr. 73,* 48 (Jan. 1947).

Through a warp protector motion a fast reed, fitted to a multiple shuttle loom by mounting on the sley, is adapted to work efficiently. TTD: 10-47

Weft stop motion. A. Prior (to Butterworth & Dickinson, Ltd.). Brit. P. 580-430. *Textile Mfr. 73,* 104 (Feb. 1947).

A weft stop motion for a loom is described. TTD: 10-47

Warp tensioning. Baumwoll-Spinnerei & -Weberei Wettingen. Brit. P. 581 178. *Textile Mfr. 73,* 151-2 (Mar. 1947).

By means of a warp tensioning device groups of warp ends are subjected to varying tensions, thus producing wave-shaped impressions in the weft corresponding to loosely and tightly woven parts in the fabric. TTD: 10-47

Fabric construction — IV 2 c

Rayon crepe fabrics. Unusual rayon crepe effect decribed and analyzed. Anon. *Am. Wool Cotton Reptr. 61,* No. 6, 9-10, 33 (Feb. 6, 1947).

A rayon crepe fabric, the varied effect of which is obtained in the shrinkage of the warp yarn, is described and analyzed. TTD: 10-47

Satin crepe fabrics. Acetate satin crepe a large-selling rayon. Anon. *Am. Wool Cotton Reptr. 61,* No. 13 (Section I) 9-10, 53-4 (Mar. 27, 1947).

Construction, uses, and weaving of rayon satin crepe fabrics are discussed, with an analysis of the weave given. TTD: 10-47

Slub yarn cloth. Acetate filament yarns used in butcher cloth. Anon. *Am. Wool Cotton Reptr. 61,* No. 16, 63, 65, 67, 70 (Apr. 17, 1947).

Slub yarn or butcher cloths consist of hard-twisted acetate

filaments, in combination form, with a greater diameter at one point than another. Both the warp and filling yarns are identical in composition and construction and are made with an S and Z twist. A table of filling yarn twists and an analysis of the cloth are given.
TTD: 10-47

Tweeds. Scotch and other tweeds. Anon. *Am. Wool Cotton Reptr. 61,* No. 13, (Section I), 14 (Mar. 27, 1947).

Characteristics and some details of various types of tweed fabric are briefly reviewed. TTD: 10-47

Weaving defects. Fewer worsted fabric defects can now be allowed. F. H. Brook. *Textile World 97,* No. 6, 114-15, 218, 220, 222, 224 (June, 1947).

Defects in worsted fabrics due to weaving are reviewed, and methods of eliminating these faults are suggested.
TTD: 10-47

Weaving leno fabrics. Unusual leno fabric of novelty rayon. Anon. *Am. Wool Cotton Reptr. 61,* No. 3, 11-12, 51 (Jan. 16, 1947).

An analysis of a leno fabric composed of rayon warp and filling yarns in combination with cotton and wool is given. Weaving of this type of fabric is also discussed.
TTD: 10-47

Mixture fabric. Godfrey Bloch. USP 2 423 366, July 1, 1947.

A fabric is designed to be composed of yarns made entirely of synthetic fibers, yarns made entirely of cotton or other vegetable fibers and yarns made of a mixture. The object of this arrangement is to retain the luster and sheen as well as the softness to the touch and the pliability and drape of a fabric woven entirely from synthetic fibers and add the stability against shrinkage and stretch of a cotton fabric. Several types of weave are suggested as examples. Such fabrics are suitable for shirting, pajamas, underwear, etc.
SPH TTD: 10-47

Knitting IV 3

Knitting. O. Fregeolle (to Hemphill Co.). Austraian P. 124 651, July 3, 1947.

See USP 2 374 532, Apr. 24, 1945 (TTD: *2,* 193) & Can. P. 434 482, Apr. 30, 1946. TTD: 10-47

Knitting machines IV 3 a

Knitting machine. Floatstitch and straight bar bearded needle frame—II. H. Wignall. *Textile Mfr. 73,* 16-17 (Jan. 1947).

The floatstitch for designs in knitted fabrics and the full

fashioned straight bar bearded needle machine are described and illustrated. TTD: 10-47

Knitting machines. New machines and improvements are highlights of knitting exhibition. Anon. *Textile World 97,* No. 5, 117-120d (May, 1947).

New machines and improvements exhibited at Atlantic City are briefly surveyed, being arranged alphabetically by exhibitors. TTD: 10-47

Patterning mechanism. Multi butt patterning—III. H. Wignall. *Textile Mfr. 73,* 60-1 (Feb. 1947).

The multi butt patterning mechanism consists of latch needles with 2 butts of varying length. Below each needle in the cylinder is placed a jack that has 3 butts of different lengths that may be varied according to the pattern. Operation of the mechanism is discussed.
TTD: 10-47

Knitting machine. W. G. MacDonald & W. A. Cooper (to Wm. Cotton, Ltd.). Australian P. 124 543, June 26, 1947.

See USP 2 381 072, Aug. 7, 1945 (TTD: *2,* 445).
TTD: 10-47

Knitting machine. G. Wilders & J. E. Lynam (to Wm. Cotton, Ltd.). Australian P. 124 545, June 26, 1947.

See Brit. P. 565 240 & 565 268 (TTD: *2,* 293).
TTD: 10-47

Knitting machine needle. R. C. Amidon (to Vanity Fair Mills, Inc.). Australian P. 124 711, July 10, 1947.

See USP 2 403 961, July 16, 1946 (TTD: *3,* 409) & Can. P. 440 440, Mar. 25, 1947. TTD: 10-47

Patterning device. E. Dubied & Cie., S. A. Brit. P. 580 739. *Textile Mfr. 73,* (92) (Feb. 1947).

A pair of cams spaced around a cylinder-and-dial knitting machine having each needle or its driver formed with a single butt, is engageable by all the butts in the one needle bed to move the needles in order to perform a knitting operation. Each operating cam selectively positions the needles so that their butts engage the associated operating cam. A selecting cam, which is moveable into and out of engaging position while its cooperating needles are outside its range, can engage one group only of the needles or drivers so that their butts can engage their operating cam. TTD: 10-47

F.N.F. Technique. Anon. F.N.F. Ltd, Burton-on-Trent, England.

Reviewed in *Can. Textile J. 63,* No. 25, 14, 16 (Dec. 13, 1946). TTD: 10-47

Fabric construction — IV 3 c

Knit fabric construction. Cut and shaped knitted garments. H. Wignall. *Textile Mfr. 73,* 118-19, 147 (Mar. 1947).

The construction of cut and shaped knitted garments is given, and the various fabrics that can be produced on a plain latch needle circular machine are described. Elastic fabric construction is discussed with the aid of diagrams. TTD: 10-47

Toe closing. Gary T. Whitlock. USP 2 423 744, July 8, 1947.

In knitting socks in the form of a tubular blank, the toe closure is formed by a novel method, the shape of the cuts on the blank and the relation of the seams being shown. A seam in a vertical plane from the sole to the tip and a seam in a horizontal plane are used.
SPH TTD: 10-47

Rib knitted frabric. F. Bonser (to Interlock Patents, Ltd.). Australian P. 124 313, June 5, 1947.

In producing a rib knitted fabric on a circular rib knitting machine, the knitted loops of each course or of selected courses are formed of the same ground yarn, with each loop being subsequently locked by a locking yarn fed onto the hooks of dial needles over the shanks of cylinder needles and locked with ground loops over a wire extending under the dial and behind the cylinder needles. In a modification, 2 locking yarns are used to interlock the cylinder and dial loops respectively.
TTD: 10-47

Hosiery. S. C. Mack. Australian P. 124 432, June 19, 1947.

A fashioned stocking is produced with rounded heel and toe by narrowing the fabric within a few courses, preferably a single course. TTD: 10-47

Nylon hosiery. A. L. Hutton, Jr. (to Hemphill Co.). Australian P. 124 713, July 10, 1947.

In order to prevent chafing of the foot through contact with the nylon fibers and to secure a neat finish at the junction of the plating and the instep, the foot sections of a rotary knit stocking are lined with a plating of softer fibers. Cut thread ends, that would be found if the plating were rotary knitted, are obviated by reciprocatory knitting, the fiber being made continuous through the whole plated section. TTD: 10-47

Knitting. B. T. Cole. Brit. P. 580 501. *Textile Mfr. 73,* 105 (Feb. 1947).

By applying tension to yarn during knitting, the yarn is parted at a knitted loop and is thus excluded from the

knitting needles, the free end floating along the line of needles. By this method the yarn may be reintroduced by releasing the tension. TTD: 10-47

Special fabrics — IV 4

Embroidery. Medieval embroidery. B. Kurth. *Ciba Rev.* 50, 1798-1824, 1826-8 (Dec. 1945).

The technique (stitches and cloth) and types of embroidery during the Middle Ages is reviewed.
TTD: 10-47

Woven belt. M. L. Forgacs & H. Schiller. Australian P. 124 736, July 10, 1947.

A transmission belt, with end loops to form the belt joint, comprises a continuous warp thread carried backwards and forwards through the belt to form loops at each end and also a weft thread woven into the continuous warp throughout the length of the belt.
TTD: 10-47

Net fabric. F. C. Page. Brit. P. 580 646. *Textile Mfr. 73,* 105 (Feb. 1947).

Net fabric, suitable as bedspreads, overlays, etc., comprises a series of interwoven crossing strips having on the faces one or more rows of tufted decorative material.
TTD: 10-47

Fabric design. W. & A. W. Mycroft. Brit. P. 580 813. *Textile Mfr. 73,* 150 (Mar. 1947).

Ornamental designs are applied to net, lace, and other fabrics by placing the fabric over a layer of finely divided solid coating material, applying adhesive to the fabric in the desired pattern and then pressing it. TTD: 10-47

Fabric processing — IV 5

Drying. High frequency drying for textiles forecast. Ward Delaney, Inst. Textile Technology. *Am. Wool Cotton Reptr. 61,* No. 15, 15, 48-9 (Apr. 10, 1947).

A lecture on the future of HF drying in the textile industry. TTD: 10-47

Knitted fabrics. Curl in knitted fabrics. Anon. *Am. Wool Cotton Reptr. 61,* No. 3, 53 (Jan. 16, 1947).

A method of preventing curl in knitted fabrics is briefly described, consisting essentially of calendering and then rolling up on the calender roll and allowing the fabric to remain and cool at least 12 hrs. TTD: 10-47

Processing defects. Milling and carbonizing faults. Kemmek. *Can. Textile J. 64,* No. 11, 40, 42 (May 30, 1947).

Causes and prevention of defects in milling and carbon-

izing woolen cloth are discussed; constant vigilance is needed. TTD: 10-47

Radio frequency heating. Radio frequency heating. B. E. Rector, Westinghouse Electric Corp. *Brit. Plastics 19,* 56-60 (Feb. 1947).

A review of the principles of radio frequency heating. TTD: 10-47

Radio heating. Radio heat plastic welder. Anon. *Brit. Plastic 19,* 154 (Apr. 1947).

Redifon, a radio heat plastic welder for seaming polyvinyl chloride material, is briefly described and illustrated. TTD: 10-47

Seam strengths. Improving seam strengths. Anon. *Can. Textile. J. 64,* No. 3, 48, 50 (Feb. 7, 1947).

The results of a study of seam strengths show that by using stronger thread and more stitches per inch the strength can be improved. TTD: 10-47

Singeing fabrics. New system speeds and improves rayon-fabric singeing. Jos. C. Moore. *Textile World 97,* No. 6, 112-13, 208, 210 (June, 1947).

An illustrated description of the Kemp radiant-flame compression equipment for singeing rayon fabrics. Only one run is necessary, and the speed of that run exceeds the speed of other types of singeing equipment. TTD: 10-47

Tentering. Pin tenter improvements create much interest. Kenneth S. Laurie, John Dalglish & Sons. *Am. Wool Cotton Reptr. 61,* No. 16, 95, 97-8 (Apr. 17, 1947); *Can. Textile J. 64,* No. 8, 42–4 (Apr. 18, 1947).

A lecture on a high speed automatic pin tenter frame that stabilizes shrinkage in the warp direction in fabrics. TTD: 10-47

Washing limits. Wool, silk or synthetic fabrics' washing limits. Anon. *Am. Wool Cotton Reptr. 61,* No. 5, 9-10 (Jan. 30, 1947).

The washing capacity of various fabrics (as wool, nylon, silk, and casein) and their properties are discussed. TTD: 10-47

Preshrinking fabric. F. R. Redman. Australian P. 124 631, July 3, 1947.

In a preshrinking process, fabric is rumpled lengthwise and widthwise repeatedly in the presence of heat and moisture, the fabric being kept free from tension. The fabric is next passed between rollers onto a work table, is then moistened by steam, rumpled further, and finally dried. TTD: 10-47

Fabric applications IV 6

Fiberglas and cotton fabric. New fire-resistive cloth. Anon. *Am. Wool Cotton Reptr. 61,* No. 16, 83, 98 (Apr. 17, 1947).

A brief note on noncombustible drapery fabrics composed of Fiberglas yarns and flame-proofed cotton yarns. TTD: 10-47

Non-woven rayon fabrics. Non-woven rayon staple fiber fabrics. Anon. *Can. Textile J. 64,* No. 5, 42 (Mar. 7, 1947).

Non-woven rayon viscose fabrics consist of multiple webs of fibers bonded together. Methods of forming the fabrics and uses of them are briefly reviewed. TTD: 10-47

Plastic coated cotton. New strainproof fabric announced by Goodall. Anon. *Am. Wool Cotton Reptr. 61,* No. 16, 75 (Apr. 17, 1947).

Vysheen is a new transparent, plastic coated, decorative, cotton fabric. The properties and uses of this cloth are briefly reviewed. TTD: 10-47

Surgical boot. Florence B. Van Hoesen. USP 2 423 354, July 1, 1947.

In order to prevent plaster casts from becoming soft and weakening, it is necessary that they be kept dry. This device covers a boot made of waterproof or water-repellent material to be put on over the cast to protect the cast from moisture and also to cover the unsightly appearance of a plastic cast. Provision for easy application and also provision for a walking iron are included. SPH TTD: 10-47

Tennis ball cover. Zephir J. Chagnon (to Albany Felt Co.). USP 2 423 827, July 15, 1947.

In a fabric designed to have a preponderance of yarns running in one direction on one side of the cloth, the yarns are composed of a mixture of nylon, or other resinous fibers, and wool. Enough wool must be retained so that the fabric can be felted or fulled. As much as 60 wt.% of nylon may be used. Tests show that with 42% nylon the wearing qualities are 100% better than those for an all-wool cover. SPH TTD: 10-47

Laminate. Ethan A. Stuart (to Haley Cate Co., Inc.). USP 2 424 777, July 29, 1947.

The vamp of a shoe is made of a number of layers bonded with permanently plastic adhesive. At least one of the layers is of textile material cut on the bias to permit stretchability, and all of the layers are bonded on the edges by resilient synthetic plastic material to afford resiliency to the vamp. TTD: 10-47

Flexible fabric. Howard Snow (to Southern Friction Materials Co.). USP 2 424 861, July 29, 1947.

A rubber or leather substitute may be made by impregnating a fabric with a thermosetting resin or varnish, heating and drying, and then scraping or grinding the surface to remove the outer, comparatively rigid crust of oxidized or polymerized resin or varnish. When this crust is removed, a very light nap is produced on the surface of the fabric. This makes the material adaptable for various uses where slick coated surfaces would be entirely unsatisfactory; *e.g.*, mats and decking. The ground, slightly napped surface is especially adapted for gluing or cementing of the fabric to another surface.
TTD: 10-47

Fibrous laminate. Kenneth L. Edgar, Fred. W. Stavely & Chas. K. Novotny (to Firestone Tire & Rubber Co.). USP 2 424 923, July 29, 1947.

Buna S is incorporated with urea-formaldehyde resin and used to impregnate fabrics for lamination. The laminated materials so produced have excellent strength and shock resistance and can be used for supporting panels for aircraft fuel cells, in which application they have shown great resistance to shattering by gunfire and crash impact. Damage to the panels tends to be localized in the immediate area of penetration. The impregnating fluid may be applied to woven fabrics, cord plies, etc., made from cotton, viscose rayon, nylon, glass filaments and the like, and to paper, felt, and fiber bats. The uncured, impregnated fabric has sufficient flexibility, drape, and tack to facilitate building and plying operations. They may be used for making luggage, airframes, prefabricated building subassemblies, furniture and components thereof, electrical and radio housing, etc.
TTD: 10-47

Metal-fabric laminate. W. Y. Jones. Australian P. 124 470, June 19, 1947.

A laminated material consists of a fabric core of interwoven textile threads and metal wires impregnated with a synthetic resin to which a wood veneer is secured with a synthetic adhesive under heat and pressure.
TTD: 10-47

Plasticizing knitted fabric. A. E. Colledge, E. C. Dawes & T. A. Gilbert (to Klinger Mfg. Co., Ltd.). Brit. P. 579 946. *Textile Mfr. 73,* 50 (Jan. 1947).

Knitted fabric made from thermoplastic yarns is plasticized by passing over formers, each of which has a continuous surface possessing black-body characteristics, and then subjecting to radiant heat externally applied.
TTD: 10-47

Insulating fabric. A. S. Bell. Brit. P. 580 045. *Textile Mfr. 73,* (78) (Jan. 1947).

A composite fabric having high insulating qualities has an inner layer consisting of one or more thicknesses of an open-work fabric having large air spaces. Secured to each side of this layer is a densely woven light-weight fabric with a low degree of air permeability.
TTD: 10-47

Rubberized fabric. Internatl. Latex Processes, Ltd. Brit. P. 580 134. *Textile Mfr. 73,* 103 (Feb. 1947).

A dispersion of rubber or water-insoluble synthetic plastic is deposited on fabric by coagulation, the fabric being then rinsed in a bath containing a cation-active agent.
TTD: 10-47

Rayon insulating material. Am. Viscose Corp. Brit. P. 580 370. *Textile Mfr. 73,* 103 (Feb. 1947).

A light-weight material for heat insulating is produced by passing a multiple filament bundle through a fluid under turbulent conditions and condensing the bundle into a wide sheet, the sheet being collected in a multiple-layered winding and expanded as a unit by pulling 2 of its opposite edges apart in a direction across the lay of the filaments.
TTD: 10-47

Laminated fabric. B. J. Habgood & D. A. Harper (to Imperial Chemical Industries, Ltd.). Brit. P. 580 525. *Textile Mfr. 73,* 105 (Feb. 1947).

A laminated fabric suitable for balloon casings consists of outer plies of fabric bonded together with an organic diisocyanate modified polyester or polyester-amide, cured (or not) with formaldehyde.
TTD: 10-47

CHEMICAL RAW MATERIALS V

Alkyd resins. Chemistry of alkyd resins. Zeno W. Wicks. *Interchem. Rev. 6,* 63-76 (Autumn, 1947).

A review of the chemistry and preparation of alkyd resins.
TTD: 10-47

Geon latex. Developing unsupported latex film. Ray Bitter, B. F. Goodrich Chem. Co. *Am. Wool Cotton Reptr. 61,* No. 16, 105 (Apr. 17, 1947).

The properties and uses of Geon latex are briefly reviewed. The future of this latex in forming unsupported films is discussed.
TTD: 10-47

P.V.C. leathercloth. Plastics leathercloth. L. Bilmes, Arlington Plastics Development, Ltd. *Brit. Plastics 19,* 104-6 (Mar. 1947).

Polyvinyl chloride (PVC) leathercloth consists of coating a fabric backing with a film of PVC and then embossing. The properties, uses, and methods of manufacture are discussed.
TTD: 10-47

Rayon laminates. Rayon laminated plastics. Anon. *Can. Textile J. 64,* No. 1, 40 (Jan. 10, 1947).

Rayon laminated plastics are formed by pressing into a bonded plate or molded article a number of layers of resin treated fabrics or fibrous mats. Rayon laminates have good tensile and high impact strengths as well as uniformity and clarity. TTD: 10-47

Soap. Soap. G. Schaefer & C. Gränacher. *Ciba Rev.* 56, 2014-51 (Apr. 1947).

The history of the production and use of soap, soap boiling, and methods of cleaning textiles is given. New types of synthetic soaps are also reviewed. TTD: 10-47

LOW-PRESSURE LAMINATING OF PLASTICS. J. S. Hicks, assisted by R. J. Francis. Reinhold Publishing Corp., 330 W. 42nd St., New York, N. Y.; 1947; 162 pp.; price $4.50.

Reviewed in *Chem. Eng. News 25,* 2228-9 (Aug. 4, 1947). TTD: 10-47

PHENOPLASTS, THEIR STRUCTURE AND CHEMICAL TECHNOLOGY. T. S. Carswell. Interscience Publishers, Inc., New York; 1947; 267 pp.; price $5.50.

Reviewed in *Chem. Industries 61,* 694, 696 (Oct. 1947). TTD: 10-47

POSITEX IN WOOLEN AND WORSTED INDUSTRIES. POSITEX APPLIED TO COTTON, LINEN, SISAL OR JUTE YARNS AND FABRICS. POSITEX IN MANUFACTURE AND TREATMENT OF FELTS. POSITEX AS TEXTILE PRINTING PASTE. C. M. Blow. Pamphlets No. 3, 4, 5 and 6 (respectively) of Brit. Rubber Development Board, 19 Fenchurch St., London, B. C. 3; July 1947; 39 pp. TTD: 10-47

CHEMICAL PROCESSING VI

Circular-knit goods. Special techniques required for circular-knit finishing. Irving Teplitz, Richard Finishing Co., Inc. *Textile World 97,* No. 6, 129, 188, 190, 192 (June, 1947).

Circular-knit goods are finished by essentially the same methods as woven goods except for a few circumstances which require methods peculiar to circular knit fabrics, such as the use of spreaders. These methods are discussed. TTD: 10-47

Dyeing and finishing. Dyeing and finishing worsted and serge suitings. Walter Stansfield, Dominion Silk Dyeing & Finishing Co., Ltd. *Can. Textile J. 64,* No. 4, 43-4, 54 (Feb. 21, 1947).

Crabbing, fulling, scouring, dyeing, and finishing processes for worsted and serge suitings are discussed. TTD: 10-47

Finishing. Butterworth's new finishing machinery. Anon. *Can. Textile J. 64,* No. 10, 44 (May 16, 1947); *Am. Wool Cotton Reptr. 61,* No. 16, 114 (Apr. 17, 1947).

A description of a 3-roll horizontal padder that may be converted into 5 other finishing machines by varying the boxes. TTD: 10-47

Finishing cotton goods. Cotton goods finishing methods and machines. Anon. *Am. Wool Cotton Reptr. 61,* No. 8, 9-10, 38-9 (Feb. 20, 1947).

Drying and tentering methods and equipment for cotton goods are discussed. TTD: 10-47

Finishing jute and linen. Finishing loom state cloths —X. S. A. G. Caldwell. *Textile Mfr. 73,* 37-9 (Jan. 1947).

Jute and linen woven goods are finished to improve their handle and appearance Moisture, pressure, and heat are essential factors in finishing. Discussions of cropping, damping, calendering, beetling, and mangling of jute and linen cloths are given. TTD: 10-47

Kier boiling. Kier boiling processes are many and varied. Anon. *Am. Wool Cotton Reptr. 61,* No. 15, 11-12, 47-8 (Apr. 10, 1947).

The designs and operation of kiers and their application to various styles of cloth are reviewed. TTD: 10-47

Moire finishing. Moire finishing of today's fabrics. Hans A. Holterhoff, Newburgh Moire Co., Inc. *Can. Textile J. 64,* No. 4, 52 (Feb. 21, 1947).

Fabrics are given a moire finish by laying 2 identical pieces face to face and subjecting them to pressure and heat. The filling produces the pattern and the warp develops the luster. Methods used in moire finishing are given. TTD: 10-47

Sizing. Sizing agents and methods demand greater research. Anon. *Am. Wool Cotton Reptr. 61,* No. 14, 11-12 (Apr. 3, 1947).

A review of the highlights of a symposium on sizing of the Textile Research Institute. TTD: 10-47

Wool top. Present trends in wool combing. W. L. Thomas, Woolcombers, Ltd. *Textile Mfr. 73,* 91-3, 97 (Feb. 1947).

A lecture on wool scouring, effluent treatments, specifications, and technical liaison of wool processing. TTD: 10-47

Coating textile fabric. Rudolph H. Czeczowitzka (to Texproof, Ltd.). USP 2 424 386, July 22, 1947.

A fabric is first impregnated with water containing small amounts of calcium alginate, NH_3 and a wetting agent. This prevents the coating composition from permeating the fabric and so reducing its pliability, but forms an emulsion with the coating solution and thus binds it to the fabric. The coating solution consists of a plasticized polyvinyl resin, such as polyvinyl acetate, vinyl chloride-acetate copolymers, and polyvinyl acetals, with stearic acid. TTD: 10-47

Automatic washing machine. R. Wilson (to D. & J. Tullis, Ltd.). Brit. P. 580 423. *Textile Mfr. 73,* 103-4 (Feb 1947).

A washing machine is automatically controlled so that the processing agents may be introduced in the exact quantities required at the several stages and at the proper times. TTD: 10-47

Esterifying linen fabric. R. W. Moncrieff & H. H. Holmes. Brit. P. 580 979. *Textile Mfr. 73,* 151 (Mar. 1947).

Linen fabric of high wet and dry strength is obtained by esterifying the material with a carboxylic acid of MW of at least 200 and a lower fatty acid anhydride so that the weight of the material is increased 1-5%. TTD: 10-47

COLOR VII

Dyeing and bleaching. Continuous dyeing and bleaching reviewed. Paul L. Meunier & T. E. Bell, E. I. du Pont de Nemours & Co. *Am. Wool Cotton Reptr. 61,* No. 11, 21–2 (Mar. 13, 1947).

Two lectures on continuous dyeing and bleaching are summarized. TTD: 10-47

Bleaching VII 1

Bleaching and washing. Cotton goods finishing, bleaching and washing. Anon. *Am. Wool Cotton Reptr. 61,* No. 11, 47, 49, 51, 53, 55 (Mar. 13, 1947).

Various defects in weave constructions are due to faulty bleaching and washing. Remedies for these faults and a review of some aspects of bleaching and washing are discussed. TTD: 10-47

Bleaching. Continuous bleaching makes great progress. T. E. Bell, E. I. du Pont de Nemours & Co. *Am. Wool Cotton Reptr. 61,* No. 16, 85, 87, 89, 93 (Apr. 17, 1947).

The basic operations and a typical installation of a continuous peroxide bleach system are described. TTD: 10-47

Bleaching. Continuous peroxide bleach reduces mill's costs. E. Dalton White. *Textile World 97,* No. 6, 141, 232, 235-6 (June, 1947).

The continuous bleaching process (at Dundee Mills, Inc.) of goods in rope form and the controls used are described. TTD: 10-47

Whitening textiles. Peter W. Tainsh (to Lever Bros. Co.). USP 2 424 778, July 29, 1947.

Laundered textiles are rinsed in a solution of a blue fluorescent substance and ultramarine. This produces an apparent whiteness superior to that imparted when either substance is used alone. Compounds of the coumarin group, especially hydroxy coumarins, such as umbelliferone, and hydroxy-substituted coumarins, such as beta-methyl umbelliferone, give very satisfactory results as the blue fluorescent substance. Other useful blue-fluorescent compounds are 1-naphthyl-amine-4-sulfonic acid and sodium 2-naphthyl-amine-6:8-disulfonate. The treatment may be applied to textile fabrics, yarns, and paper. TTD: 10-47

Bleaching pulp. Brit. Celanese, Ltd. Brit. P. 581 046. *Textile Mfr. 73,* 151 (Mar. 1947).

Partially esterified wood pulp is bleached by treating with a solution of a lower aliphatic peracid in a lower fatty acid. In an example, 146 parts by weight of partially acetylated pulp are treated for 24 hrs at room temperature in a bleaching bath comprising 49 parts of peracetic acid, 12,200 of 85% acetic acid, and 2.0 parts of manganous acetate. TTD: 10-47

Dyeing VII 2

Batik process. Batiks. A. Steinman, Zurich Univ. *Ciba Rev.* 58, 2090-2120, 2123-8 (July, 1947).

A review of the art, history, and designs of the batik process used in Java. This process is a method of applying designs on cloth by covering a part of the fabric with a dye-proof material and then dyeing. TTD: 10-47

Coprantine dyes. Practical experience with coprantine dyestuffs. Anon. *Ciba Rev.* 51, 1857 (July, 1946).

Details for dyeing with Coprantine dyes are given. TTD: 10-47

Coprantine dyes. Coprantine dyestuffs. Anon. *Ciba Rev.* 52, 1897 (Sept. 1946).

Coprantine dyes are direct dyes which are fast to light and washing. They require no special aftertreating baths for their development. TTD: 10-47

Direct cotton dyes. Dyeing properties of direct cotton dyes. Frederick L. Goodall. *Can. Textile J. 64,* No. 2, 43-4 (Jan. 24, 1947).

Direct cotton dyes have individual properties that should be considered in the dyeing process. Rates of exhaust and migration, and effects of temperature, salt, and liquor ratio are discussed. TTD: 10-47

Dye assistant. Albatex PO—dyeing assistant par excellence. Anon. *Ciba Rev.* 53, 1923-4 (Nov. 1946).

Albatex PO is the salt of high molecular organic sulfonic acid which directly restrains the rate of dyeing and retards the absorption of many dyes. It is particularly useful in vat, direct, sulfur, union, and acetate rayon dyeing. TTD: 10-47

Dyehouse. Wool raw stock processed in modernized dyehouse. M. H. Hudson, Atlanta Woolen Mills. *Textile World 97,* No. 5, 112-13 (May, 1947).

The operations in dyeing wool raw stock and the new equipment used (at Atlanta Woolen Mills) are reviewed. TTD: 10-47

Dyeing. Williams unit effects changes in dyeing techniques. S. H. Williams, Gen. Dyestuff Corp. *Textile World 97,* No. 5, 143, 145, 147, 190, 196 (May, 1947); *Am. Wool Cotton Reptr. 61,* No. 12, 13 (Mar. 20, 1947).

The use of the Williams unit for vat dyeing fabrics is described. TTD: 10-47

Dyeing cotton. Beam dyeing of cotton yarns with vat colors. *Can. Textile J. 64,* No 4, 51 (Feb. 21, 1947).

Cotton, dyed on beams with vat dyes, may result in unevenly dyed material due to the mineral content of the cotton. A method of removing this mineral matter is briefly reviewed. TTD: 10-47

Dyeing developments. Vat dyeing of wool cause of much discussion. Anon. *Am. Wool Cotton Reptr. 61,* No. 7, 171, 173, 175, 177 (Feb. 13, 1947).

Dyeing developments in 1946 are reviewed. Of particular note are a new process for vat dyeing wool and wool blends, a process for pigment vat dyeing, the dyeometer which measures the rate of exhaustion of dye in the dye bath, and the expansion of fluorescent dyes. TTD: 10-47

Dyeing wool. Dyeing of wool damaged by exposure to light. H. Rösti, Ciba Wool Dyeing Lab. *Ciba Rev.* 58, 2121-2 (July, 1947).

The physical properties of wool change on exposure to light and present difficulties in dyeing. Suggestions are given for obtaining an even depth of dye in woolen materials. TTD: 10-47

Vat dyeing. Herbert G. Scull (to Eastman Kodak Co.). USP 2 424 857, July 29, 1947.

Cellulose ester fabrics are padded with a mixture containing an unreduced vat dye, a stable alkaline reducing agent which is inactive below 140°F, an alkali, and a thickening agent, then dried and steamed to reduce the dye and to saponify the cellulose ester on the surface. The fabrics are next aged and treated with an oxidizing agent to develop the color, then washed and dried. Cellulose acetates, propionates, and butyrates, and the partially hydrolyzed as well as the unhydrolyzed mixed esters of cellulose can readily be dyed by this process. TTD: 10-47

Anthraquinone dyeing. Society of Chemical Industry in Basle. Brit. P. 581 139. *Textile Mfr. 73,* 151 (Mar. 1947).

Cellulose esters or ethers may be dyed with a dye obtained by treating an amino-anthraquinone containing at least 2 primary amino groups, at least 1 of which is bound to the anthraquinone nucleus with an anhydride of a dicarboxylic acid, under the conditions that at least 1 primary amino group is acylated and at least 1 remains unchanged. TTD: 10-47

Dye fastness. Society of Chemical Industry in Basle. Brit. P. 581 176. *Textile Mfr. 73,* 151 (Mar. 1947).

The fastness of dyes on cellulose esters matted with TiO_2 is improved by after-treating the matted and dyed material with melamine. TTD: 10-47

Printing VII 3

Discharge printing. Discharges on Coprantine dyeings. Anon. *Ciba Rev.* 50, 1825 (Dec. 1945).

Details for obtaining good white discharges on Coprantine dyeings are given. TTD: 10-47

Printing Bemberg rayon. Machine and screen printing Bemberg rayon. Anon. *Ciba Rev.* 54, 1965 (Jan. 1947).

Breaking of the fiber and poor leveling are difficulties encountered in printing Bemberg rayons. Causes and remedies for these difficulties are discussed in a brief note. TTD: 10-47

Printing thickener. Vulcanized starch. Anon. *Am. Wool Cotton Reptr. 61,* No. 13, (Section I), 17 (Mar. 27, 1947).

A brief note on the properties of Vulca-100, a vulcanized starch that is suitable for use as a printing thickener. TTD: 10-47

Screen printing. Screen printing plant achieves line

production. H. S. Knowlton, Textile World. *Textile World 97,* No. 5, 106-7, 200, 202 (May, 1947).

A description, with a schematic diagram, of a screen printing production line from reception of material to finished output (at Riveredge Printers, Inc.).

TTD: 10-47

Printing. W. C. Ross (to Dewey & Almy Chemical Co.). Australian P. 124 733, July 10, 1947.

To avoid the use of black-greys and to allow easy removal of the color, a wash-blanket is adapted to hold charges of finely divided powder in certain areas, such areas of the blanket being charged with color-absorptive particles and the textile being printed while superposed on the blanket. (*Cf.* Can. P. 437 322, Oct. 8, 1946 (TTD: *3,* 561).) TTD: 10-47

Printing paste. Brit. Celanese Ltd. Brit. P. 579 718. *Textile Mfr. 73,* 49 (Jan. 1947).

A printing paste for printing cellulose acetate fabric comprises an acid dye, an aliphatic monohydric alcohol containing up to 5 C atoms, a thickener, an inorganic thiocyanate (a swelling agent for the cellulose derivative), and, preferably, a lower aliphatic monocarboxylic acid containing up to 4 C atoms. The printed fabric does not bleed on soaping and is very fast to washing.

TTD: 10-47

Discharge printing. R. W. Hardacre & G. S. J. White (to Imperial Chemical Industries, Ltd.). Brit. P. 580 205. *Textile Mfr. 73,* 103 (Feb. 1947).

In a discharge printing process, a white fabric of animal or cellulosic fiber is colored (by dyeing or printing) with an azo dye and then portions of the fabric discharged by printing onto it a discharge paste containing a reducing agent. TTD: 10-47

Resist printing. R. W. Hardacre & G. S. J. White (to Imperial Chemical Industries, Ltd.). Brit. P. 581 090. *Textile Mfr. 73,* 151 (Mar. 1947).

In a resist-printing process a resist paste is printed on white fabric and an oxidation dye applied along with an oxidizing agent. At least that portion of the fabric to receive the paste is treated with a small proportion of the free acid or a water-soluble salt of 4: 4¹-di (benzoylamino)-stilbene-2: 2¹-disulfonic acid or a substitution derivative substituted in the benzoyl nuclei.

TTD: 10-47

Proofing VIII

Fire-resistant cotton. Fire control for cotton. Anon. *Chem. Eng. News 25,* 2515 (Sept. 1, 1947).

A simple method of making storages of baled cotton resistant to ordinary sources of ignition by dusting the surfaces with sodium bicarbonate powder has been suggested by W. E. Peterson, (Associated Factory Mutual Fire Insurance Companies). Preliminary tests are said to show that the new dusting method is effective in preventing ignition from small external sources such as sparks or match flames When exposed to heat under such conditions, the sodium bicarbonate powder releases an inert gas. TTD: 10-47

Shrinkproofing wool. Felt resistant wool by chlorination. H. Zimmerman, Alrose Chemical Co. *Can. Textile J. 64,* No. 10, 41-4 (May 16, 1947).

The chlorination process for shrinkproofing wool is reviewed. Details on the chemistry, control, and stability of the chlorinating bath are discussed. TTD: 10-47

Waterproofing and fireproofing textiles. Jos. H. Klaber to (Quaker Chemical Products Corp.). USP 2 424 831, July 29, 1947.

Sufficient volatile acid is added to decrease the pH to below 4.85, at which the waterproofing and flameproofing materials are compatible. On drying, the acid is vaporized and the residue on the fabric has a pH which will not injure the fabric. This makes possible the use of any fire-resistant salt in combination with any water-repellent agent in the form of an oil-in-water emulsion and a hydrolyzable metal salt of an organic acid. Paraffin wax, carnauba wax, amorphous wax, hydrogenated castor oil, a sorbitol maleate alkyl resin, a polyvinyl acetate resin, a cumarone-indene type resin, ethyl cellulose, and the like may be used as water-repellents. For the hydrolyzable salt, acetates of Al, Bi, or Sn may be used. Of the various fire-resistant agents, $ZnCl_2$, $CaCl_2$, $(NH_4)_2SO_4$, sodium boroformate, and borax are particularly suitable. Examples of volatile acids which are effective are formic, acetic, and hydrochloric.

TTD: 10-47

Waterproofing cellulose acetate. Brit. Celanese, Ltd. Brit. P. 579 944. *Textile Mfr. 73,* 50 (Jan. 1947).

Cellulose acetate material is treated with a solution of an oxidizing agent and then with a waterproofing composition, the resulting fabric having a rating (by the AATCC spray method) of 90 prior to washing, of 80 after 1 washing in 0.5% soap solution and of 60 after 3 washings. In an example cellulose acetate fabric is oxidized for 1½ hrs at 80°C in a solution containing 0.5 wt.% $KMnO_4$ and O.135% H_2SO_4, immersed 15 min in 1% sodium bisulfite solution at 40°C and then rinsed, dried, and subjected to waterproofing.

TTD: 10-47

Waterproofing fabric. Sylvania Industrial Corp.

Brit. P. 580 883. *Textile Mfr. 73,* 150 (Mar. 1947).

Fabric is waterproofed by coating a temporary backing sheet with a film of a synthetic elastomer, adhering the film to the fabric under heat and pressure, and then stripping the backing sheet from the film.

TTD: 10-47

Treating rope. C. Garrett (to Lumsden & Mackenzie, Ltd.). Brit. P. 581 083. *Textile Mfr. 73,* 151 (Mar. 1947).

Rope or cord is rendered buoyant in water by treating with an organic solvent to remove the waxy material, impregnating with a waterproofing agent (consisting of a water emulsion of fatty or waxy matter containing a dispersing agent), and then drying with heat to separate the dispersion, thus stabilizing the fatty matter in the rope. TTD: 10-47

FIREPROOFING OF FABRICS. Anon. Brit. Information Service, 30 Rockefeller Plaza, New York 20, N. Y.; price 2s 6d.

Reviewed in *Chem. Eng. News 25,* 2229 (Aug. 4, 1947). TTD: 10-47

TESTING AND ANALYSIS IX

Deterioration. Deterioration of textiles by light. D. W. Hill, Shirley Inst. *Chemistry & Industry* No. 45, 691 (Nov. 8, 1947).

In a talk, summarized, it is pointed out that fabric tendering by light occurred only when oxygen was present. At a constant oxygen pressure, increased moisture content increased the tendering. "Fabrics dyed with vat dyestuffs, particularly yellows of the anthraquinone class, are the most prone to tendering." Some volatile agent, possibly H_2O_2 was believed the cause of tendering of such dyed fabrics.

LCL TTD: 10-47

Fiber tests. Mill technicians can use fiber-test data. P. M. Thomas, Textile World. *Textile World 97,* No. 6, 120-2 (June, 1947).

By testing cotton fiber properties a mill technician can explain the variance in yarn strength. The variance that cannot be predicted by fiber properties is usually due to errors in testing. TTD: 10-47

Identifying casein blends. Identification of casein in blends with other fibers. R. Wittwer, Ciba, Ltd. *Ciba Rev.* 57, 2079 (June, 1947).

Three methods of detecting casein fibers in a fabric are discussed. TTD: 10-47

Gels. Measurement of gel strength. Anon. *Chem. Eng. News 25,* No. 34, 2452 (August 25, 1947).

An improved method for more precise measurements of the tensile strength of gels, developed by W. J. Hamer (Natl Bur. of Standards), gives the strength, or "yield value," and resistance to deformation of the material under study. It essentially involves the determination of the shearing force necessary to fracture the gel as given by the weight of mercury required to pull a standard disk from the gel in which it is imbedded.

TTD: 10-47

Moisture measurements. New fiber drying unit. Anon. *Can. Textile J. 64,* No. 3, 50 (Feb. 7, 1947).

A new type of fiber drier (Baird) for determining moisture in wool fibers is described. TTD: 10-47

Specifications. Plastics standardization. Wm. D. Owen. *Brit. Plastics 19,* 48-55 (Feb. 1947).

Features of a plan for standardizing plastic specifications in England. TTD: 10-47

Standards. New standards discussed by committee D-13 groups. Anon. *Am. Wool Cotton Reptr. 61,* No. 12, 11-12 (Mar. 20, 1947).

A discussion on standards for testing textiles.

TTD: 10-47

Stress-strain tester. New stress-strain tester for textiles. Anon. *Can. Textile J. 64,* No. 7, 38 (Apr. 4, 1947).

A description of a stress-strain tester that uses a magnetic strain gauge. TTD: 10-47

Synthetic washing agents. Evaluation of synthetic washing agents. Anon. *Ciba Rev.* 49, 1789-90 (Apr. 1945).

There is no one test that will give valid comparisons in all circumstances and under all conditions for synthetic washing agents. Therefore, they should be evaluated by various tests under the particular condition in which they will be used. TTD: 10-47

Testing fabrics. Effect of dyestuffs on the temperature rise of fabrics exposed to light. Anon. *Can. Textile J. 64,* No. 2, 48 (Jan. 24, 1947).

The measurement of light absorbing characteristics and the temperature rise of fabrics on exposure to radiant energy is described. Results show that dyes of various reflectance characteristics show substantially different thermal behavior on exposure to radiant energy.

TTD: 10-47

Testing rayon saponification. Saponification of ace-

tate rayon. Anon. *Can. Textile J. 64,* No. 2, 52 (Jan 24, 1947).

Investigations of the effect of variables which affect the saponification reaction on acetate rayon are described. TTD: 10-47

Testing wool tops. Testing wool fiber length and fineness. Lanarius. *Can. Textile J. 64,* No. 1, 42-3 (Jan. 10, 1947).

The Schlumberger tester and its use in testing the proportions of fibers of different lengths in a wool top by weight are described. TTD: 10-47

TEXTILE MILLS X

Buildings, machinery, power X 1

Boiler combustion control. Automatic combustion control. F. A. Westbrook. *Textile Mfr. 73,* 94-5, 97 (Feb. 1947).

A discussion of automatic combustion control for boilers and its application to 3 types of control systems. TTD: 10-47

Card room construction. Woolen mill construction: card room requirements. Anon. *Am. Wool Cotton Reptr. 61,* No. 13, (Section I), 13 (Mar. 27, 1947).

A brief discussion on construction practices for card rooms in woolen mills. TTD: 10-47

Color in mills. Use of color in industrial plants. Anon. *Can. Textile J. 63,* No. 25, 44, 46 (Dec. 13, 1946).

Painting walls, ceilings and machinery in textile mills improves working and safety conditions. The correct use of color will supplement lighting and will promote better production. TTD: 10-47

Machine shops. Mill should figure closely on its machine-shop needs. Cecil H. Smith. *Textile World 97,* No. 6, 131, 192, 194, 196 (June, 1947).

The economy of a mill having its own machine shop or using an independent one in its vicinity is discussed. Equipment and materials necessary for a machine shop are given. TTD: 10-47

Machinery. Textile machinery installed in Quebec's textile school. Anon. *Can. Textile J. 64,* No. 3, 22 (Feb. 7, 1947).

A list of machinery installed in Quebec's textile school. TTD: 10-47

Machinery. Europe has been fertile field for textile machinery ideas. Rene Bouvet, Am. Viscose Corp.

Textile World 97, No. 6, 127, 228, 232 (June, 1947).

A lecture on the developments and improvements on machinery in Europe is summarized. TTD: 10-47

Machinery standardization. Standardization of worsted machinery. A. Poncelet, Prince-Smith & Stells, Ltd. *Can. Textile J. 64,* No. 9, 42-3 (May 2, 1947).

The need for standardizing machinery in worsted manufacture is discussed in a lecture. TTD: 10-47

Machinery starter. Contacter type starter for textile machinery. Anon. *Textile Mfr. 73,* 64 (Feb. 1947).

A brief description of a new 10 amp. starter (Brookhurst Switchgear, Ltd.) for textile machinery. TTD: 10-47

Mill construction. New mill construction continues upward trend. Anon. *Am. Wool Cotton Reptr. 61,* No. 7, 185, 187, 189, 191 (Feb. 13, 1947).

Developments in mill construction in 1946 are reviewed and future trends discussed. TTD: 10-47

Mill construction. Grand'Mere Knitting erects new plant. Anon. *Can. Textile J. 64,* No. 4, 27-8 (Feb. 21, 1947).

The construction of a new modern, windowless, air-conditioned knitting mill is described. TTD: 10-47

Mill construction. Glass house for Duplan insulates for nylon throwing. Anon. *Textile World 97,* No. 5, 114-5 (May, 1947).

Details of construction of new nylon throwing plant (Duplan Corp.) are given. The plant is completely insulated with Foamglas, air conditioned, and windowless in the manufacturing area. TTD: 10-47

Mill modernization. Major expansion at Magog Cotton Mill. Anon. *Can. Textile J. 63,* No. 25, 25-6 (Dec. 13, 1946).

A brief review of an expansion program of a mill with over 100,000 spindles. Improvements will be seen in a modern, windowless building with fluorescent lighting and air conditioning. TTD: 10-47

Mill modernization. Renfrew woolen modernization. Anon. *Can. Textile J. 64,* No. 2, 28 (Jan. 24, 1947).

The modernization program of a woolen mill (Renfrew Woolen Mills) is briefly reviewed. TTD: 10-47

Pipe-line maintenance. Pipe-line strainers can reduce maintenance costs. R. E. Cochran, McGraw-Hill

Cleveland Bur. *Textile World 97,* No. 6, 118-19, 122 (June, 1947).

A considerable saving can be effected by the use of strainers for pipe lines since sediment in the lines causes much damage. In addition there is an increase in efficiency of pumps, valves, meters, and steam traps. TTD: 10-47

Rayon plant. Peruvian textile mills build own rayon plant. Anon. *Textile World 97,* No. 5, 240 (May, 1947).

A description of an American-built viscose rayon plant in Peru. TTD: 10-47

Spindle lubrication. Wicaco spindle oiling machine. Anon. *Textile Mfr. 73,* 26-7 (Jan. 1947).

The design and operation of the Wicaco spindle oiling machine, which cleans and oils spindle bolsters, are given. TTD: 10-47

Spinning mill. Montrose worsted yarn spinning mill in operation. Anon. *Can. Textile J. 64,* No. 7, 23 (Apr. 4, 1947).

A brief description of the construction and machinery of a new Canadian spinning mill. TTD: 10-47

Static eliminator. Ionotron static eliminator. Anon. *Can. Textile J. 64,* No. 7, 44 (Apr. 4, 1947).

A brief discussion of the Ionotron static eliminator. TTD: 10-47

Swedish machinery. Swedish textile machinery. Anon. *Am. Wool Cotton Reptr. 61,* No. 61, 115-16 (Apr. 17, 1947).

A brief description of the machinery in a Swedish woolen mill. TTD: 10-47

Swiss machinery. Basle fair is focus for new Swiss machinery. Harry Seligman. *Textile World 97,* No. 6, 137, 139 (June, 1947).

A review of Swiss machinery and improvements shown at the Basle fair includes descriptions of an improved machine for placing drop wires in the warp (Zellweger), a knotter (Zellweger), a ring-spinning frame (J. J. Rieter), and a mechanism that acts as a buffer for the shuttle (Zama A. G. Chur). TTD: 10-47

Woolen mill modernization. Modernization in wool textile industry. Anon. *Textile Mfr. 73,* 15 (Jan. 1947).

Modernization of a woolen mill (Try Mills) and an exhibit of lighting and color are briefly described. TTD: 10-47

Lighting and Air — X 2

Air conditioning. Air conditioning in textile mills—

V. E. Howlett. *Textile Mfr. 73,* 28-30 (Jan. 1947).

Ventilation, humidification, and dust removal for air conditioning are discussed, and the Andrew pneumatic system of air conditioning is described. TTD: 10-47

Air contamination. Air contamination in cotton textile processes. Leslie Silverman, Harvard School of Public Health. *Can. Textile J. 64,* No. 9, 36-9 (May 2, 1947).

A discussion of an investigation of air conditions in cotton mills, improving cotton cleaning equipment, and ventilation requirements in cotton processes. TTD: 10-47

Air distribution. Adjustable air diffuser can meet changing conditions. Henry A. Baker, W. B. Connor Eng. Corp. *Textile World 97,* No. 5, 141, 216, 218, 220 (May, 1947).

Various air distribution systems for textile mills are reviewed. An adjustable air diffuser, which uses the principle of air stream directional flow, possesses the greatest advantages. TTD: 10-47

Air filtering in drying. Electrostatic filter cleans air for yarn-package drying. H. L. Dozier, Adelaide Mills. *Textile World 97,* No. 6, 135 (June, 1947).

An electrostatic air cleaner for blowers on drying machines is described. The filter cleans all the air going to the blowers which in turn feed the cleaned, hot air to the driers. TTD: 10-47

Electrical installation maintenance. Care of electrical installations. Anon. *Textile Mfr. 73,* 40-2 (Jan. 1947).

A review of necessary maintenance for electric power and lighting installations. TTD: 10-47

Electronic air filter. Air conditioning in textile mills—VI. E. Howlett. *Textile Mfr. 73,* 74-7, 130-33 (Feb., Mar. 1947).

The mechanical, fabric, and viscous type filters are briefly reviewed. Electronic air filters have been developed that improve these mechanical filters and remove solids from the air by electric attraction. A discussion of the principles and operation of the electronic filter and different types of precipitators is given. TTD: 10-47

Hazards; operations; efficiency — X 4

Accident prevention. Control of accidents by plant management. E. L. Dorsey, Jr. Am. Liability Insurance Co. *Am. Wool Cotton Reptr. 61,* No. 15, 13-14 (Apr. 10, 1947).

A summary of a lecture on controlling accidents in mills. TTD: 10-47

Fire hazards. Fire prevention in blowing rooms. Anon. *Textile Mfr. 73,* 19-20 (Jan. 1947).

Fires in the blowing room may be greatly reduced by the use of electric detectors, magnetic drums, or permanent magnets to remove tramp iron from the cotton being processed. The principles of these 3 preventive measures are given. TTD: 10-47

Fire hazards. Textile fires—their prevention and control. G. R. Shepherd, Associated Factory Mutual Insurance Cos. *Can. Textile J. 64,* No. 5, 44, 46, 48 (Mar. 7, 1947).

A discussion of the causes of textile fires and of preventive measures. TTD: 10-47

Hazards. Handling vinylidene chloride. Robt. C. Reinhardt, Dow Chemical Co. *Chem. Eng. News 25,* 2136 (July 28, 1947).

Dangers due to the fact that vinylidene chloride has a low flash point, vapors of moderate toxicity, and an appreciable range of explosive limits may be avoided by use of polymerization inhibitors in storage or by storing away from oxygen or air. TTD: 10-47

Materials handling. Handling raw materials and finished products. Anon. *Am. Wool Cotton Reptr. 61,* No. 7, 73, 75, 97 (Feb. 13, 1947).

Low-lift, fixed platform, and fork-lift battery-powered trucks for handling of raw materials and finished products at the Bigelow-Sanford Carpet Co. are discussed. TTD: 10-47

Materials handling. Handling systems speed tricot-mill production. Anon. *Textile World 97,* No. 6, 116-17 (June, 1947).

An illustrated description of handling systems in a tricot knitting mill (Ko-Nit Textile Corp.) with a brief descripton of the mill itself. TTD: 10-47

Materials handling. Every "pick up" adds to handling cost. C. Mallard Bowden, Textile World. *Textile World 97,* No. 5, 104-5 (May 1947).

The number of "pick-ups" of cones during winding, inspecting, and shipping may be reduced from 5 to 1 by use of a special truck, carrying a small table and a shipping case. TTD: 10-47

Materials handling. Textile materials handling important to production. W. B. McGuire, P. O. M. Co. *Am. Wool Cotton Reptr. 61,* No. 4, 9-10, 41 (Jan. 23, 1947).

Suggested methods for improved handling of bales,

picker laps, and slasher creels are discussed in a lecture. Better material handling methods will reduce costs, damage, waste, and accidents, as well as improve quality of production. TTD: 10-47

Sewing-machine maintenance. Centralized maintenance reduces mill's repair costs. E. Dalton White. *Textile World 97,* No. 6, 145, 186, 188 (June, 1947).

Sewing machine repairs (at E-Z Mills, Inc.) are accomplished by the use of a system of centralized maintenance and signal lights for summoning a mechanic. Each man of the maintenance crew is a trained specialist for a particular type and make of machine. TTD: 10-47

Visual efficiency. Eyesight in industry. Anon. *Can Textile J. 64,* No. 4, 50-1 (Feb. 21, 1947).

Causes of eyestrain and eye injuries are discussed. Effective equipment for protection of eyes both at the source of the hazard and for personal use are reviewed. Visual efficiency directly affects efficient use of both manpower and equipment. TTD: 10-47

Wool handling. Wool handling crane proves effective in mill tests. Anon. *Am. Wool Cotton Reptr. 61,* No. 11, 67 (Mar. 13, 1947).

A motor propelled crane that can lower or raise wool in bulk from various bins for grading is described. The crane has a powerful grappling device, partially automatic, and runs on tracks directly over the storage bins. TTD: 10-47

Accident Prevention Manual for Industrial Operations. Anon. Natl. Safety Council, 20 N. Wacker Drive, Chicago 6, Ill.

Reviewed in *Can. Textile J. 64,* No. 3, 12 (Feb. 7, 1947). TTD: 10-47

BASIC SCIENCES XI

Glass blowing. Scientific glass blowing and laboratory techniques. Wm. E. Barr & Victor J. Anhorn, Gulf Research & Development Co. (with John R. Anderson, Mellon Inst. of Ind. Research, for pp. 822-32, Sept. 1947). *Instruments 18,* 874, *19,* 14-18, 20, 22, 24, 26, 28, 30, 32, 82-5, 90-8, 150-2, 154, 156, 158, 160, 162, 164, 166, 212-16, 218, 220, 344-56, 406-14, 418, 460-2, 464, 466, 468, 514, 516, 518, 520, 522, 524, 604, 606, 608, 610, 612, 614, 666-8, 670, 672, 674, 676, 678, 680, 734, 736, 738, 740, 742, 744, 746, *20,* 39-40, 42, 44, 52, 54, 151-2, 154, 156, 158, 240, 244, 246, 248, 250, 252, 254, 256, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 454, 456, 458, 460, 542, 544, 546,

548, 716, 718, 720, 722, 724, 822-32, 924, 926, 928, 1007-8, 1010-20, 1022-6, 1028 (Dec. 1945; Jan., Apr., June-Dec., 1946; Jan.-June, Aug.-Nov., 1947).

Detailed instructions are given for laboratory glass blowing, including making ground surfaces, glass-to-metal seals. (To be published in book form at a later date.) LCL TTD: 10-47

THEORY AND APPLICATION OF RADIO-FREQUENCY HEATING. Geo. H. Brown, Cyril N. Hoyler & Rudolph A. Bierwirth. D. Van Nostrand Co., Inc., 250 4th Ave., New York, N. Y.; 1947; 370 pp.; price $6.50.

Reviewed in *Chem. Eng. News 25,* 2397 (Aug. 18, 1947). TTD: 10-47

TEXTILE RESEARCH XII

Canadian rayon industry. Future of Canada's rayon industry. W. F. Parry, Bruck Silk Mills, Ltd. *Can. Textile J. 64,* No. 5, 26-7, 50 (Mar. 7, 1947).

Canada must use its own raw materials for yarn manufacture to insure the future of the rayon industry. Other requirements for expansion are also discussed. TTD: 10-47

Dyeing costs. Costings for commission dyeing. Kemmek. *Textile Mfr. 73,* 96 (Feb. 1947).

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Index to Authors

VOLUME 4, NUMBER 10, OCTOBER, 1947

Amidon, R. C. 406
Anderson, J. R. 428
Anhorn, V. J. 428
Ankers, H. 399
Baker, H. A. 426
Barr, W. E. 428
Bateson, L. H. 401
Belanger, A. P. 389
Bell, A. S. 412
Bell, T. E. 415
Benson, N. 404
Bierwirth, R. A. 429
Bilmes, L. 412
Bitter, R. 412
Bloch, G. 405
Blow, C. M. 413
Bonnet, F. 398
Bonser, F. 407
Botkin, W. W. 391
Bouvet, R. 424
Bowden, C. M. 401, 427
Brewster, E. W. 389
Brewster, F. R. 394
Brierley, E. 400
Brook, F. H. 405
Brown, G. H. 429
Caldwell, S. A. G. 400, 414
Caldwell, W. A. 393
Carswell, T. S. 413
Carter, S. 399
Casciani, F. 392
Cass, O. W. 394
Chagnon, Z. J. 395, 410
Clarke, T. A. 400
Clegg, L. N. 401
Cochran, R. E. 425
Cole, B. T. 407
Colledge, A. E. 411
Cooper, W. A. 406
Croasdale, H. 403
Czeczowitzka, R. H. 415
Davis, A. H. 396
Dawes, E. C. 411
Delaney, W. 408, 430
Dorsey, E. L., Jr. 427
Dozier, H. L. 426
Edgar, K. L. 411
Ezbelent, G. E. 404
Fletcher, E. 396
Forgacs, M. L. 408
Francis, R. J. 413
Fregeolle, O. 405
Garrett, C. 421
Gerdes, F. L. 389
Gilbert, T. A. 411
Gilruth, W. M. 390
Goddard, W. L. 391
Goodall, F. L. 417
Graham, J. 403
Gränacher, C. 413
Greenwood, R. S. 391
Gulledge, E. 396
Habgood, B. J. 394, 412
Haigh, P. B. 398
Handschin, E. 391
Hardacre, R. W. 419
Hargreaves, T. 403
Harper, D. A. 394, 412
Harris, O. P. 394
Hawker, H. W. 390
Herold, R. 403
Heyworth, E. L. 403
Hicks, J. S. 413
Hill, D. W. 421
Holmes, H. H. 415
Holterhoff, H. A. 414
Howlett, E. 426
Hoyler, C. N. 429
Hudson, M. H. 417
Hutton, A. L., Jr. 407
Illingworth, J. W. 401
Jack, J. 393
Jones, D. L. 390
Jones, W. Y. 411
Kelley, M. J. 395
Kemmek 409, 429
Killough, D. T. 390
Klaber, J. H. 420
Knowlton, H. S. 419
Kurth, B. 408
Lanarius 397, 399, 423
Laurie, K. S. 409
Lavalland, M. L. 389
Leahy, J. 390, 391
Levers, W. H. 402
Lynam, J. E. 406
MacDonald, W. G. 406
McGeoch, S. N. 391
McGuire, W. B. 428
Mack, S. C. 407
Mackie, J. P. 400
Matthew, J. A. 398
Meunier, P. L. 415
Mills, J. J. 397
Moncrieff, R. W. 415
Moore, J. C. 409
Mulqueen, M. 395
Mycroft, A. W. 408
Mycroft, W. 408
Neville, E. T. 430
Novotny, C. K. 411
Owen, W. D. 422
Page, F. C. 408
Parry, W. F. 429
Patrick, J. C. 394
Pent, R. E. 391
Pierre, B. 432
Poncelet, A. 424
Powers, M. C. 431
Prior, A. 404
Rector, B. E. 409
Redman, F. R. 409
Reinhart, R. C. 427
Reynolds, R. J. W. 394
Richards, R. B. 394
Robertshaw, F. 397
Robinson, E. A. 395
Ross, W. C. 419
Rösti, H. 418
Rutishauser, G. 400
Sargeant, E. H. G. 395
Schaefer, G. 389, 413
Schiller, H. 408
Schoenlaub, R. A. 397
Schofield, J. 400
Scull, H. G. 418
Seligman, H. 425
Seydel, P. V. 402
Sharpe, L. 401
Shepherd, G. R. 427
Silverman, L. 426
Simison, A. L. 396, 397
Simpson, D. C. 397
Slayter, G. 397
Smith, C. H. 423
Smith, H. D. 390
Snow, H. 396, 411
Sowter, P. F. C. 392
Spooner, W. W. 395
Stansfield, W. 413
Stavely, F. W. 411
Steinman, A. 416
Strauss, L. B. 398
Stuart, E. A. 410
Tainsh, P. W. 416
Teplitz, I. 413
Thomas, P. M. 421
Thomas, W. L. 414
Thomson, R. H. K. 392
Torpey, H. K. 389
Toy, F. C. 430
Traill, D. 392
Tucker, J. L. 397
van Hoesen, F. B. 410
Vogt, E. 402
Walsh, D. 398
Welch, C. D. 397
Wenrich, H. E. 403
Westbrook, F. A. 423
White, E. D. 416, 428
White, G. S. J. 419
Whitlock, G. T. 407
Wicks, Z. W. 412
Wignall, H. 405, 406, 407
Wilders, G. 406
Williams, S. H. 417
Wilson, R. 415
Wittwer, R. 422
Wunderlich, H. 390
Zimmerman, H. 420